SOME SHORTCOMINGS OF SOCIO-SANITARY INVESTIGATIONS.

FRANZ SCHNEIDER, JR.,
Sanitarian, Department of Surveys and Exhibits, Russell Sage Foundation.

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IN EXAMINING reports of investigations in the field where sociology and sanitation overlap, one is appalled by the frequency of slovenly technique, unsupported argument, and logical fallacy. Many of these reports, presumably presenting the results of scientific investigations, are hardly more than expressions of the authors' personal opinions. The figures presented are often of very questionable significance. The supporting evidence gleaned from other sources frequently takes the form of expressions of opinion. Yet these things are put forward as incontrovertible evidence, and, for the most part, with excellent and honest intentions. Examination of such reports produces a feeling of discouragement—almost of despair. There is so much poor work aggressively asserted, and so little good work. It is all very human, but it is all very far removed from science.

The cause of this state of affairs is not far to seek. Public health is not as yet an exact science; sociology is hardly a science at all. If we add that very few of the persons carrying on socio-sanitary investigations have had statistical training or experience, or, in fact, scientific training or experience, I think the situation is easily understood.

One's feelings on examining many of the reports in this field are well expressed by Professor A. G. Keller in his searching essay, "Sociology and Science."* Professor Keller inquires, with regard to the run of sociological treatises, " 'What would a genuine scientist, say, Professor———, think of this?' " His answer is, "An opulence of pronouncements; a dearth of evidence—with the result that the former are unverifiable, unless, perchance, they represent 'painful elaborations of the obvious.' "

I would like to draw attention to a few examples of this sort of thing in our own field, and try to point out the more important types of defect. In taking my first example from the field of housing betterment I wish particularly to emphasize the fact that I am heartily in sympathy with housing reform. Good housing is a matter of essential decency that can stand unshakable on the foundation of its own inherent desirability. What I wish to discuss is the scientific question of the effect of housing on health.

HOUSING AND HEALTH.

The investigation which I have examined is one of the more recent and more carefully made studies of housing conditions. I am prepared to believe that the part setting forth the actual conditions found in the houses (which

* *The Nation*, New York City, Vol. 102, No. 2653, page 475, May 4, 1916.

occupies the major part of the report), is beyond criticism; the discussion of the relation between housing and public health starts, however, with the following words:

"It seems almost useless repetition to refer at this time to such a well-established fact as the intimate relation existing between housing and the public health. The only excuse one can offer for referring to the subject is that, in spite of the fact that it is so evident and has been so definitely proved time and again by numerous observers, this aspect of the public health question has not received the attention from the public officials that it deserves.

"Without attempting to show in detail in just what manner the various common defects in housing affect the health of the tenants, we will merely call attention to the importance attached to housing by several national bodies and health officers."

The author then cites the facts that at the 1911 meeting of the American Association for the Study and Prevention of Infant Mortality there was a housing section, and that this section considered housing important; and that the British national tuberculosis association included the subject for discussion in the program for its meeting of 1914. He then quotes the opinions of five persons to the effect that housing is of predominant importance in tuberculosis; gives a few death-rate figures for Edinburgh and Liverpool; and concludes with a quotation which relates that in a certain city pin maps showing cases of infectious diseases corresponded to those showing bad housing conditions. The final paragraph of the section reads:

"The value of the opinions of these physicians and health officers who have given the subject considerable study and the experiences of these cities must convince even the most prejudiced that, from the standpoint of public health, the housing of the population is a matter which deserves the most careful consideration."

No references to sources are given.

I wish to analyze this example for a few moments as it impresses me as a striking instance of most positive statements backed up by the slightest scientific evidence.

In the first place, I think every one will agree that the fact that two national associations have admitted a subject to their programs and that certain members of these associations think the subject of predominating importance, amounts to nothing in the way of scientific evidence. Of no more convincing value is the citation of the similarity of the pin maps; it disregards the elementary principle of rates. In those parts of a city where population is densest it is but natural to expect a clustering of pins on the pin map—whether the latter represents cases of diseases, bad housing, or any other social manifestation.

With regard to his Edinburgh figures our author admits his doubts in the following words:

"It has been contended that tuberculosis was more prevalent in certain districts, not on account of the bad housing, but because, where bad housing was most prevalent, there one also

found poverty, with all its associated evils."

He states, however, that: "The results obtained in Liverpool show the fallacy of this contention.

"The city of Liverpool in several districts tore down large sections of defective houses (from the standpoint of health) and erected suitable sanitary dwellings *in which practically the same people were housed who had occupied the former dwellings.* The result was that the phthisis death-rate fell in these districts from 4 per 1,000 to 1.9 per 1,000. The death-rate from consumption was more than cut in half by the improvement in *housing alone.*"*

Liverpool is accordingly his clinching evidence. He avers that practically the same people were rehoused and that the death-rate from phthisis was more than cut in half by the improvement in housing alone. This is evidence that, so our author says, must convince the most prejudiced. It certainly is important, if true. Let us see how it stands the test.

No reference is given to the paper or papers setting forth the Liverpool experience, so that the author may have had before him sources of information unavailable to me. However, I have examined the reports for 1912 and 1913 of the Housing Committee which has had this rehousing work in charge,† as well as the reports of the Medical Officer of Health for the years covered by the rehousing work.

The references to the health effects of the rehousing which I have found are as follows. In the report of the housing committee for 1912 there is the following paragraph (page 12):

"The improvement in the condition of the people rehoused by the Committee is very striking. Reliable statistics were available at the time the insanitary areas were dealt with, to show that the death-rate on these areas ranged from forty to sixty per thousand per annum, mainly due to the insanitary condition of the property, although squalor, bad habits, and the extreme poverty of the tenants were powerful factors in contributing to cause this high rate of mortality. The incidence of phthisis amongst these people, under their old conditions, resulted in an average annual death-rate of approximately 4 per 1,000. Under the new conditions, the general death-rate has been halved, and the average annual death-rate from phthisis has fallen to 1.9 per 1,000. A very careful investigation has been made into the incidence of typhoid fever, and leaves very little room for doubt that the defective and insanitary closet arrangements in the courts was one fruitful factor in the dissemination of this malady. It is a singular coincidence that year after year as the number of courts have diminished, so, also, the cases of typhoid have diminished; no doubt other factors were operative also, but that this was one, there is no reason whatever to doubt."

A little further on (page 15) we come to the following:

"It is, however, still to be regretted that the Infantile Mortality is exceptionally high. Based on the present

* The italics appear in the original.

† City of Liverpool, Artizans and Labourers Dwellings and Insanitary Property, Reports of the Housing Committee, for 1912 and 1913; Liverpool, 1913 and 1914.

population, and excluding the unrestricted tenements, the Infantile Mortality for the years 1909, 1910 and 1911 indicates a death-rate of 245 per 1,000, as compared with 139 per 1,000 for the entire city. Apart from other considerations, this fact alone emphasizes the necessity for special training on the part of those who supervise the Dwellings."

This is all the committee reports, and it is very little. In the report for 1913 these statements are reiterated in slightly different form (page 5); in addition (page 98) a table appears giving the average death-rate from all causes and the average phthisis death-rate for 1904–1906 of six of the unhealthy areas dealt with. The average population of these areas was 536; their general death-rates varied from 26.2 per 1,000 to 54.9, and averaged 44.4; their phthisis death-rates ranged from 1.1 to 7.0 per 1,000, and averaged 3.9. The significance of this table is doubtful, unless it is as a basis for the statements regarding rates of mortality before rehousing. A chart is given which shows decline in the city's typhoid fever rate, which parallels not only the number of courts and alleys but percentage of cases treated at home.

To sum up the evidence from the Housing Committee reports, it appears that the corporation has been rehousing displaced people since 1896, the rate of demolition since 1902 being something like 500 houses per year. By 1912 the corporation had under its control 2,747 dwellings, of which 79.7 per cent. were reserved for persons who had been dispossessed. It is stated that the phthisis death-rate has fallen from 4 per 1,000 under the old conditions to 1.9 per 1,000 under the new; but no specification is made as to the period covered by this fall or the area and population to which it applies, and no supporting evidence is adduced. Evidently the reports of the committee are not an adequate original source.

Turning to the annual reports of the Medical Officer of Health little more definite information is to be found. The same general assertion regarding the fall in the phthisis rate appears,* this evidently being the source of the Housing Committee's statement. I have been unable to find any definite elaboration of this general statement. In looking back through the reports it is evident that the process of rehousing was a gradual one extending over a period of about fifteen years, a period during which the general and phthisis death-rates of the whole of Liverpool and of all England underwent marked decline. We are not dealing with a clear-cut experiment of which a definite record has been kept and published. The data regarding the fall in phthisis among the rehoused is most fragmentary.

One's belief in the sweeping statement regarding the effect of housing on health in Liverpool is already shaken. But how about the statement that "*practically the same people were housed who had occupied the former dwellings?*" Well, the report of the Medical Officer for 1913 (page 299) states that the population of these

* Report of the Medical Officer of Health for 1911, 239.

corporation tenements was 10,223, of which 1,799, or 18 per cent., were "unrestricted"; that is, other than dispossessed. For six specific rehousing schemes 73 per cent. were rehoused in corporation dwellings; of all persons dispossessed since 1896 only some 64 per cent. were rehoused.* Thus a very considerable proportion of those dispossessed were not rehoused.

In addition, those rehoused were a carefully chosen group. Listen to the Medical Officer's report for 1907 (page 231); "The committee are already aware that in accordance with their instructions applicants of drunken habits and of dissipated character are excluded from the dwellings, and that a selection of the better class of dispossessed is being made. This is an additional reason why better results may be looked for." In other words, the poorer stock was weeded out. So much for practically the same persons being rehoused!

There remains the assertion that the death-rate from consumption was reduced "by the improvement in *housing alone*." The selection of the best tenants for rehousing of course vitiates the force of this statement, but there are other grounds for objection. For example, when rebuilding an area the corporation bought out and removed a large proportion of the saloons. The Medical Officer repeatedly emphasizes the importance of this policy and dwells on its beneficial results.† In addition we must reckon with an actively developing health department which inaugurated in 1897 a staff of Female Inspectors to do infant hygiene work in homes and which "little by little, was added to";* which initiated a system of milk depots in 1901;† which instituted a systematic medical inspection of school children in 1908;‡ and which in 1901 requested the reporting of tuberculosis and has since progressively developed a well-rounded campaign against the disease.§ Now when we find that there is reason to believe that the health department exercised especially close supervision over the corporation's own dwellings,|| that playgrounds and gymnasia were included in the rebuilding schemes,¶ and that old age pensions went into effect during the rehousing process, it becomes very evident that there was a great deal going on besides the improvement in housing alone.

The conclusion of the whole matter is something like this. The Liverpool rehousing work was not conceived as a demonstration of the effect of rehousing on health and was not carried on in such a manner as to permit a clean-cut answer to that question. The actual fall in disease rates is uncertain, because the time periods and populations involved are uncertain. Only two-thirds of the persons dispossessed were rehoused, and these were selected

* Report of the Housing Committee, 1913, page 4.

† See Annual Reports: 1909, page xix; 1912, page 246; 1913, page 294.

* Annual Report of the Medical Officer of Health for 1913, page 64.

† *Ibid.* page 72.

‡ Annual Report of the Medical Officer of Health for 1908, page xv.

§ Annual Report of the Medical Officer of Health for 1913, page 101.

|| Annual Report of the Medical Officer of Health for 1911, page 252.

¶ Annual Report of the Medical Officer of Health for 1913, page 294.

with reference to their habits and desirability as tenants. Finally, many important health measures were undertaken simultaneously. The Liverpool experience is a splendid example of civic regeneration, but it has not contributed any convincing scientific evidence to our knowledge of housing and health.

I have gone into this reference to the Liverpool experience because it is a striking example of the hasty generalizations dogmatically uttered that are so frequent in reports dealing with social and health conditions, and because it occurred in one of the better reports. Before leaving the question of housing and health I would like to call attention to some of the other dangers that abound in this perilous field of investigation. These are well exposed in Prof. Karl Pearson's paper. "Eugenics and Public Health.* The ease and clearness with which Professor Pearson can lay bare the fallacies underlying apparently significant statistics will be a revelation to those unfamiliar with the publications of the Galton Eugenics Laboratory. In the paper mentioned he shows how the prevalence of phthisis among persons occupying different sized tenements may be associated with questions of age distribution, economic conditions, and the physique in the stock. In another place he takes up the oft quoted Glasgow data, published by the British Local Government Board, which represent that by virtue of living in four room tenements boys weighed 11.7 pounds more than boys living in one room tenements, and shows that of this difference 6.2 pounds was due simply to the fact that the boys living in one room houses were younger.*

And Pearson does more than subject the existing data regarding the social causes of tuberculosis to destructive criticism, he produces evidence regarding the importance of inherited physique that cannot be ignored. In considering the effect of environment we must take into consideration his investigations showing that whereas correlation between husband and wife with regard to tuberculosis is about that which they exhibit with regard to "sexually selected" physical, psychical, and pathological characteristics, the correlation between parents and children with regard to disease is twice as great, or an amount about equal to that exhibited between parents and children with regard to such inheritance factors as stature, eye color, deafmutism, and insanity.†

Altogether, it seems to me that we have very little scientific evidence regarding the effect of housing on health. The situation is aptly put by Dr. Charles J. Hastings in the following words:

"We naturally ask ourselves then,

* Pearson, Karl: "Eugenics and Public Health, "Questions of the Day and of the Fray, No. VI; Cambridge University Press, London, 1912.

* Pearson, Karl: "Social Problems: Their Treatment, Past, Present, and Future," Questions of the Day and of the Fray, No. V; Dulau & Co., London, 1912.

† Pearson, Karl: "Tuberculosis, Heredity and Environment"; Dulau & Co., London, 1912.

For a discussion of the causes of the decline in the death-rate fron tuberculosis see the same author's, "The Fight Against Tuberculosis and the Death-Rate from Phthisis," Questions of the Day and of the Fray, No. IV, Cambridge University Press, London, 1911.

how much of the misery in our back streets is due to one thing and how much to another? How much is due to worry? How much to dark, dusty factories? How much to improper clothing? How much to improper, insufficient, or badly cooked food? How much to general malnutrition? How much to over-crowding? How much to unsanitary privy pits? How much to drunkenness and dissipation?

* * * * *

"Have we not taken too much for granted in the deductions we have made in the past in our investigations, and has not the time now come in the march of social progress when we must be more specific and debit to the various items of our list of social ills, the proportion of maladjustment due to each?

"While I do not wish for a moment to underestimate the significance of good housing conditions, yet I wish strongly to urge the necessity of a more careful analysis of the various causes of the greater prevalence of tuberculosis under bad housing conditions."*

Other Examples.

Let no one think that unsatisfactory investigation is limited to the field of housing and health. What are we to say of a report entitled "Facts About ———," which devotes three printed pages to an attempt "to obtain some information at first hand" regarding privies as a cause of an epidemic of diphtheria? Among other things the investigator reports the following choice bit of evidence:

"A very intelligent appearing woman, an old resident of North ———, says that undoubtedly condition of privies has something to do with spread of diphtheria, for as she counts the cases she finds most of them lived in houses with privies."

And further on:

"House found on Broadway, privy filled absolutely to the brim. One case of diphtheria on top floor."

Of course this is simply an example of a well-meaning person dabbling in something in ingenuous and almost total ignorance.

From another report, a "survey or social inventory" comes the following example of elegant vital statistics:

"There were in ———burg in 1913 ten deaths; of these five were male and five were female. They were distributed according to age as follows:

"1 under 1 year,
1 under 5 years,
3 between 50 and 60 years,
3 between 70 and 80 years,
2 between 80 and 90 years.

"Taking the population of ——— burg at 683, the number given by the census of 1910, the death-rate would be 14.6 per 1,000 of the population. The death-rate of the United States is given as 16.3 per 1,000. H. N. Ogden, in his book, 'Rural Hygiene,' page 3, under the caption 'Ideal Death-rates,' says, in a comparison of the rates of different nations,—'Norway, Denmark and Sweden have

*Hastings, Charles J.: "Relative Prevalence of Tuberculosis Under Good and Bad Housing Conditions"; Transactions of Eleventh Annual Meeting of the National Association for the Study and Prevention of Tuberculosis, page 335, Baltimore, 1915 (105 East 22nd Street, New York City).

rates of 14.5, 14.8 and 15.5, respectively; rates which may be considered as good as any country can attain at the present time.' Thus the health of ———burg would seem to be 'ideal.'"

It is all very simple; if the crude death-rate of your city is under 15.5 its health conditions are ideal! It seems a pity that our statistician did not use the population estimate for 1913, which would have given ——— burg 41 more inhabitants and would have reduced its death-rate from 14.6 to 13.8; but then, why try to improve on the "ideal?"

After all, these bulls by untrained investigators are not so remarkable when such a statement as the following can pass the eye of the editor of a recent text-book of educational hygiene. Speaking of the importance of sunshine in schools the contributor alludes to an experiment showing that tadpoles will not grow without sunlight, and continues:

"Just such an experiment society tried with babies in the dark rooms of New York's tenements, and every baby, almost without exception, born and kept in those rooms died. But when Jacob Riis and others tore down the windowless walls and the light of heaven streamed in, the babies began to live."*

Now I would like to have a reference to the source of that statement. Doesn't it come pretty close to being pure emotionalism?

Almost any number of instances of this sort of thing could be produced, but I shall not bother you with them further. Interested persons can refer to Pearson's papers, and there see shattered a number of widely-circulated and much referred-to investigations. The supposed blazing-up in the conception of idiots at the time of the vintage in wine-growing countries*; the figures reported as showing that unfitness for hard work is the result of alcoholism†; figures regarding the effect of employment of mothers, back-to-back houses, and other factors on infant mortality‡; and the question of "cancer houses" in Dublin§; all these are subjected to analysis with surprising results.

Association not Causation.

Is it possible to classify the shortcomings of socio-sanitary investigations and to say which are the most frequent and most important? Doctor Dublin will in his paper¶ treat this question in a systematic way; I cannot refrain, however, from emphasizing one or two of the defects that seem of particular importance. The mistaking of association for causation is certainly one of the most serious. Two variables, such as a death-rate and an environmental condition, are measured; a variation in one is found to be associated with a corresponding variation in the other; from this the conclusion is jumped at all too frequently that the one is the cause of the other.

* Educational Hygiene, Scribner, N. Y., 1915; page 389.

* Social Problems, etc., page 23.

† Eugenics and Public Health; page 22.

‡ *Ibid.* page 24.

§ *Ibid*, page 16.

¶ Dublin, L. I.: "The Application of the Statistical Method to the Field of Public Health Research;" American Journal of Public Health, VII, 1, Jan., 1917, p. 14.

The logical fallacy involved is the same one we are familiar with in *post hoc* reasoning; after this, therefore, because of this. The avoidance of the error involves the application of the elementary principle: all other things being equal. The point seems too obvious to urge, yet it is overlooked with astounding ingenuousness.

The danger of mistaking association for causation is greatest when but a few of the possible factors are measured; as the number of associated factors is increased it becomes more obvious that the matter of causation is complicated. Thus in a recent investigation of infant mortality* the variation in mortality is given in association with some 32 possible causes, such as dryness of home, yard clean or dirty, number of others sleeping in the baby's room, age of mother, number of pregnancies, and earnings of the father. Now it is obvious that some of these associations are accidental and that others are not equally important, or not of importance equal to the variation in the mortality rate with which they are associated. For example, it would not be contended because the infant death-rate with water supply inside the house is 118 and 198 when outside, as compared with 132 with city water available and 148 without city water, that it is much more important to have the water supply inside the house than to have city water, although this is what the figures indicate. Or, as the figures indicate, that it is more important to have a bath-tub than a water-closet. But many an uninitiated investigator is capable of measuring association with a single variable, such as cleanliness of yard, and of announcing then that dirty yards are a main cause of infant mortality

The determination of true causation is a difficult matter, calling for much patient elimination of other factors, or the giving to them of due weight. Pearson puts the matter in this wise:

"Here we reach the great rule of modern statistics: 'When investigating the relation of two characters which you find associated, test whether they still remain related after you have given all other characters likely to be influential constant values. Before you have done this you certainly must not treat the relation as a *causative* one.'

"The full theory of this method is what in modern statistics we term the treatment by partial correlation."*

To many, such a painstaking mode of investigation before the acquirement of "results" may seem an intolerable hardship, but it is the price that must be paid if we are to acquire that degree of certainty in our conclusions, and the popular respect for the latter, which prevails in the case of the recognized sciences.

Definition of Terms.

Another of the major causes of unsatisfactory investigations is lack of precision in the use of language—lack of definition in the terms used. Anyone who has attempted to compare

* Duke, Emma: "Infant Mortality: Johnstown, Pa."; Children's Bureau, Washington, 1915.

* Eugenics and Public Health; page 24.

the results obtained in different investigations of the same general subject knows how fatal this defect is to the general usefulness of a piece of work. An indefinite term may mean one thing to the person who plans the investigation; another to one enumerator and something else to some other; and it may have an appreciably different meaning to the editor of the data. Results obtained under such conditions are frequently worse than useless. Part of the trouble consists in ignoring standardized terms when they exist; and this offense is the worse when the indefinite term is used so as to give the impression that a well-known term is meant. Even when definite terms are used in the investigation it sometimes happens that the published report fails to give the necessary specifications. An example of this is such a statement as "the contagious disease rate was 25," where no inkling is given as to the diseases included in the contagious rate, or as to whether the rate is figured per 10,000 or per 100,000 of population. Indefiniteness is certainly a most effective way of destroying the value of one's labors.

The Scientific Spirit.

Many other important points to be observed in making a statistical investigation are touched on in Doctor Dublin's paper.* Accordingly, I shall pass over the questions of an adequate plan, preparation of schedules and questionnaires, standardization of enumerators, collection, tabulation, and analysis of data, precision of measurements, and errors arising from paucity of data.

In closing I wish to enter a strong plea that we carry on our investigations in the scientific spirit rather than that of propagandism, or if on occasion we do carry on propaganda that we be frank about it, and not try to pass it off on an unsuspecting public as science. Otherwise we will be plunged back into the verbalism of the middle ages, and be ineffective as well, for, after all, I fancy that the public does suspect. Have not observant journalists taken the claims of various groups of social enthusiasts as to the percentage of a given social disease, such as poverty, caused by their particular evil and demonstrated that the sum is several hundred per cent. of importance?

In this connection interest attaches to the observations of Professor Keller on the failure of sociology to win the recognition accorded other sciences.* The reason is, he says:

"In part, certainly, because the phenomena are far more complex than those of natural science; certainly also because, in this field, we may not experiment. But it cannot be denied, either, that observation has been carried on in anything but a dispassionate and objective manner, that generalizations have been formed on entirely insufficient and often incorrectly observed data, and that such hasty generalizations have commonly been erected at once into dogmas, which have then served as a basis for endless

* *Loc. cit.*

* *Loc. cit.*

and often grotesque deduction. Too many minds have conceived themselves to be of the unifying type, and have set themselves to harmonize a series of guesses, dreams, and utopias upon the basis of some 'principle' happily occurring to them.

"The phenomena invite all this. Observation is made under bias, because the facts under review are those of human life, which touch human interests. A man can count the legs of a fly and report his findings without having his heart wrung because he thinks there are too many or too few. But when he observes the life of the society within which he himself lives, moves, and has his being, or some other human society near by, it is the rule that he shall approve or disapprove, be edified or horrified, by what he observes—that is, that he shall pass a moral judgment."

I think it is clear that investigations in the socio-sanitary field have suffered from these causes. The remedy is the application of the scientific spirit. We want less assertion and more evidence; less emotionalism and more reason; less faith and more science. Let us use standardized terms and methods when they exist, and let us be explicit as to terms and method when they do not. Let us have a well defined plan before commencing work, and let us beware of association masquerading as causation.

Let us above all preserve our work from the influence of our emotions—our bias. The opportunity for investigations in the socio-sanitary field to benefit the race is an extraordinary one. Let us not waste this opportunity by indulging ourselves in emotionalism. The latter is very human, and often very winning; but it has nothing to do with science, and will not get us very far in the right direction in the long run.

SECRETARY HOUSTON'S REPORT.

Among the specific recommendations in the annual report of the Secretary of Agriculture are:

1. That the Secretary of Agriculture be authorized to establish legally enforceable standards of strength, quality, or purity for articles of food and for those articles of drugs which are sold under or by a name not recognized in the United States Pharmacopœia or National Formulary. The adoption of legally enforceable standards, the report states, will benefit the consumer and the honest manufacturer. Without them it is impossible to carry out completely the purposes of the Food and Drugs Act.

2. That the department be given authority to inspect establishments producing foods and drugs intended for shipment in interstate commerce. There are many forms of adulteration, the secretary says, which are difficult to detect without inspection of the place of manufacture. This is particularly true of foods produced under insanitary conditions.

3. The inauguration of a systematic campaign for the eradication of tuberculosis in cattle and swine. A recommendation has been included in the estimates for the fiscal year 1918 that an appropriation of $75,000 be made for the purpose.

4. That the name of the Office of Markets and Rural Organization be changed to Bureau of Markets. The secretary states that the importance of the work and the size of the organization fully justify this change, and that it is in the interest of simplicity and convenience. —*American Food Journal.*